

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An optical recording medium comprising a substrate, ~~at least one~~ recording layer provided on the substrate and ~~at least one~~ dielectric layer provided adjacent to the ~~at least one~~ recording layer, the optical recording medium being constituted ~~so~~ such that when it is irradiated with a laser beam having a wavelength λ via an objective lens having a numerical aperture NA satisfying $\lambda / NA \leq 640$ nm from the side opposite from the substrate, a record mark ~~whose reflection coefficient is different from those of other regions of the at least one recording layer~~ is formed in the ~~at least one~~ recording layer and ~~at least a part of a region(s) of the at least one dielectric layer adjacent to the record mark is crystallized to form a crystallized region~~ is formed in the dielectric layer, the crystallized region being adjacent to the record mark.

2. (Current Amended) An optical recording medium in accordance with Claim 1, wherein the ~~at least one~~ recording layer is constituted by a first recording layer containing one element selected from the group consisting of Si, Ge, Sn, Mg, C, Al, Zn, In, Cu, Ti and Bi as a primary component and a second recording layer provided in the vicinity of the first recording layer and containing one element selected from the group consisting of Cu, Si, Al, Zn and Ag and different from the element contained in the first recording layer as a primary component and when the laser beam is projected, the element contained in the first recording layer as a primary component and the element contained in the second recording layer as a primary component are mixed with each other, thereby forming ~~a~~ the record mark.

3. (Original) An optical recording medium in accordance with Claim 2, wherein the second recording layer is formed to be in contact with the first recording layer.

4. (Original) An optical recording medium in accordance with Claim 2, wherein a first dielectric layer is formed so as to be in contact with the first recording layer and a second dielectric layer is formed so as to be in contact with the second recording layer.

5. (Original) An optical recording medium in accordance with Claim 2, wherein the first recording layer contains an element selected from the group consisting of Si, Ge and Sn as a primary component.

6. (Original) An optical recording medium in accordance with Claim 4, wherein the first recording layer contains an element selected from the group consisting of Si, Ge and Sn as a primary component.

7. (Original) An optical recording medium in accordance with Claim 2, wherein the second recording layer is added with an element selected from the group consisting of Cu, Al, Zn, Ag, Mg, Sn, Au, Ti and Pd and different from the element contained in the first recording layer as a primary component.

8. (Original) An optical recording medium in accordance with Claim 4, wherein the second recording layer is added with an element selected from the group consisting of Cu, Al, Zn, Ag, Mg, Sn, Au, Ti and Pd and different from the element contained in the first recording layer as a primary component.

9. (Original) An optical recording medium in accordance with Claim 2, which further comprises a light transmission layer provided on a side opposite to the substrate with respect to the first recording layer and the second recording layer.

10. (Original) An optical recording medium in accordance with Claim 4, which further comprises a light transmission layer provided on a side opposite to the substrate with respect to the first recording layer and the second recording layer.

11-20. Canceled.

21. (New) The optical recording medium of claim 1 wherein the record mark has a different reflection coefficient than its surrounding regions in the recording layer.

22. (New) An optical recording device, after irradiation with an energy beam, comprising:

a substrate;

a bilayer overlying the substrate, said bilayer including a first recording layer and a second recording layer in contact with each other, said bilayer further having a record mark; and

a first dielectric layer overlying the bilayer, the first dielectric layer being substantially transparent to pass the energy beam therethrough; said first dielectric layer having a first crystallized region adjacent to the record mark.

23. (New) The optical recording device of claim 22 wherein the record mark and the first crystallized region form an irradiated region having a reflective coefficient different from its surrounding regions.

24. (New) The optical recording device of claim 22 further comprising a second dielectric layer positioned between the substrate and the bilayer.

25. (New) The optical recording device of claim 24 wherein, the second dielectric layer include a second crystallized region adjacent to the record mark .

26. (New) The optical recording device of claim 25 wherein the irradiated region further comprises the second crystallized region.

27. (New) The optical recording device of claim 22 wherein the first recording layer includes primarily an element selected from the group consisting of Si, Ge, Sn, Mg, C, Al, Zn, In, Cu, Ti and Bi, and the second recording layer includes primarily an element selected from the group consisting of Cu, Si, Al, Zn and Ag, provided the element of the first recording layer and the element of the second recording layer are not the same.

28. (New) The optical recording device of claim 27 wherein, upon irradiation with the energy beam, the element of the first recording layer and the element of the second recording layer mix together to form the record mark.

29. (New) The optical recording device of claim 27 wherein the second recording layer further includes an additive selected from the group consisting of Cu, Al, Zn, Ag, Mg, Sn, Au, Ti and Pd, provided that the additive is different from the element of the first recording layer.

30. (New) The optical recording device of claim 27 the first recording layer comprises Si and the second recording layer comprises Cu.

31. (New) The optical recording device of claim 22 wherein the first dielectric layer comprises ZnS and SiO₂.

32. (New) The optical recording device of claim 22 wherein the first dielectric layer is between about 3nm-80nm thick.

33. (New) The optical recording device of claim 24 wherein the second dielectric layer comprises ZnS and SiO₂.

34. (New) The optical recording device of claim 22 wherein the second dielectric layer is between about 3nm-80nm thick.

35. (New) The optical recording device of claim 22 wherein the bilayer is between about 2nm to 40nm thick.

36. (New) The optical recording device of claim 22 further comprising a light transmission layer overlying the first dielectric layer.